

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) Method for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, whereby the position of a target arranged on the first robot part is determined by the passage of a sensor arranged on the second robot part, said method comprising the steps of:

causing the target to include at least one of a groove with substantially vertical walls and an elevation with substantially vertical sides, level differences in respective surfaces of said groove and in respective surfaces of said elevation defining several distinct detectable changes comprising step-like structural changes, said step-like structural changes being defined by generally sharp level differences in surfaces of said first robot part,

sensing at least two of said distinct detectable changes by the sensor at said respective step-like structural changes,

calculating the position of the target by determining a center-point of adjacent step-like structural changes, and

introducing the calculated target position into the control system and comparing the target position with a calibration position for the target in the control system.

2. (Previously Amended) Method according to claim 1, wherein calculating the position of the target is effected by reading with the sensor which comprises a non-contact sensor.

3. (Previously Amended) Method according to claim 1, wherein calculating the position of the target is effected by reading with the sensor which comprises a contact sensor.

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) Device for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, the device comprising:

a target arranged on the first robot part; and

a sensor arranged on the second robot part,

wherein the target includes at least one of a groove with substantially vertical walls and an elevation with substantially vertical sides, level differences in respective surfaces of said groove and in respective surfaces of said elevation defining several distinct detectable changes comprising step-like structural changes, said step-like structural changes being defined by generally sharp level differences in surfaces of said first robot part, said sensor sensing at least two of said distinct detectable changes at said respective step-like structural changes to thereby enable the synchronizing of said robot by calculating a position of the target corresponding to a center-point of adjacent step-like structural changes.

7. (Currently Amended) Device according to claim 6, wherein the step-like structural changes comprise instantaneous level differences in the form of shoulder parts.

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (New) Method for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, whereby the position of a target arranged on the first robot part is determined by the passage of a sensor arranged on the second robot part, said method comprising the steps of:

causing the target to include an elevation with substantially vertical sides, level differences in respective surfaces of said elevation defining distinct detectable structural changes in surfaces of said first robot part,

sensing at least two of said distinct detectable changes by the sensor at said respective structural changes,

calculating the position of the target by determining a center-point of adjacent structural changes, and

introducing the calculated target position into the control system and comparing the target position with a calibration position for the target in the control system.

12. (New) Method according to claim 11, wherein calculating the position of the target is effected by reading with the sensor which comprises a non-contact sensor.

13. (New) Method according to claim 11, wherein calculating the position of the target is effected by reading with the sensor which comprises a contact sensor.